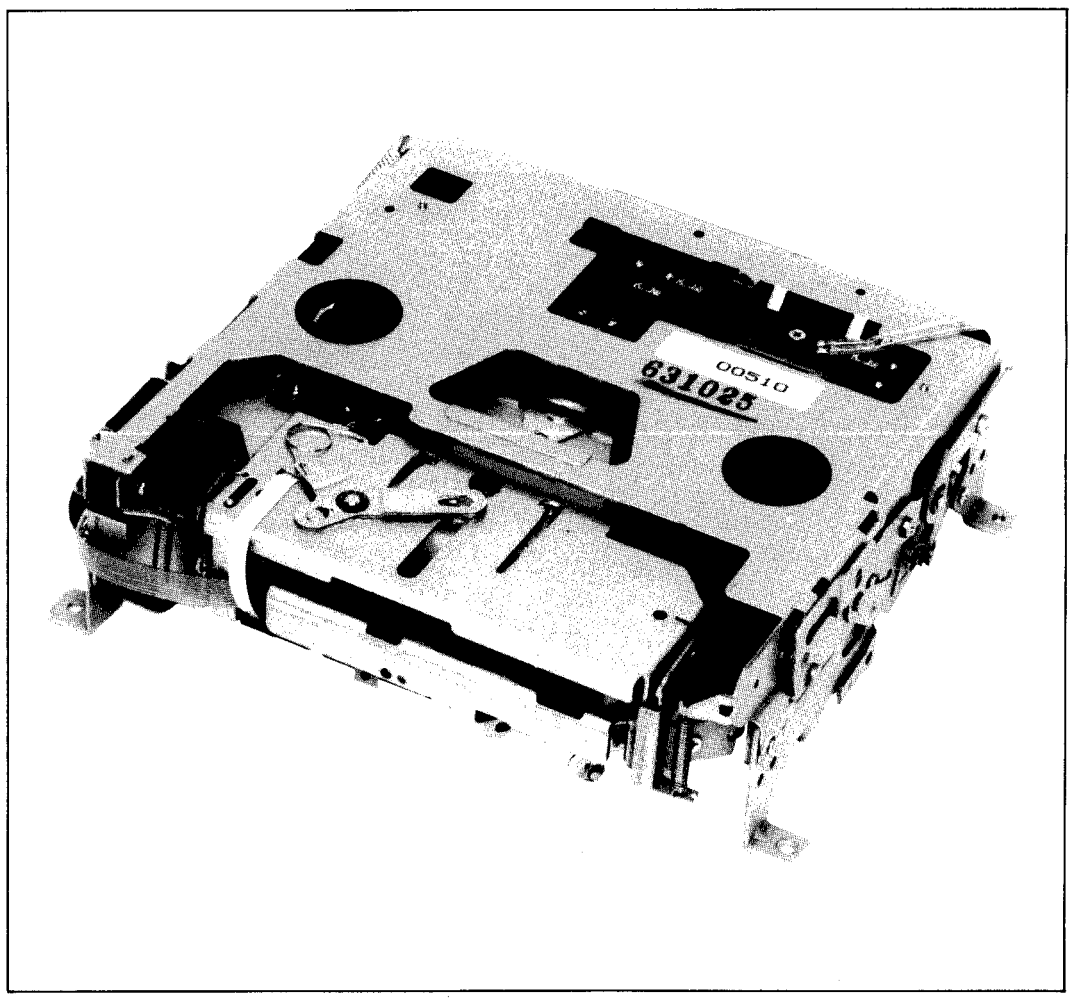
ALPINE SERVICE MANUAL

CD Player Mechanism

ADDENDUM & REVISED (III)



DP-S SERIES

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Mechanism Function Description

Function	Step	Description	Illustration
LOADING (of a 12cm CD)	①	The beam to the photo sensor (A) will be broken when a disc is inserted into the loading position.	Figure 1
	②	The mechanism detects the disc insertion and actuates the Loading motor to rotate. The rotation of motor is transmitted to the drive roller through gears (E), (D), (B) and (A).	Figure 2 Figure 7
	③	The disc will be pinched between the drive roller and the upper guide and pulled into the mechanism.	Figure 7
	④	The disc reaches to the sensor gate mechanism. The beam to the photo sensor (D) is broken, and simultaneously the micro-processor discriminates 12 or 8cm CD size depending on the photo sensor (B). If the beam to the photo sensor (B) is broken, the micro-processor detects that the disc is a 12cm CD and it continues feeding the disc.	Figure 3

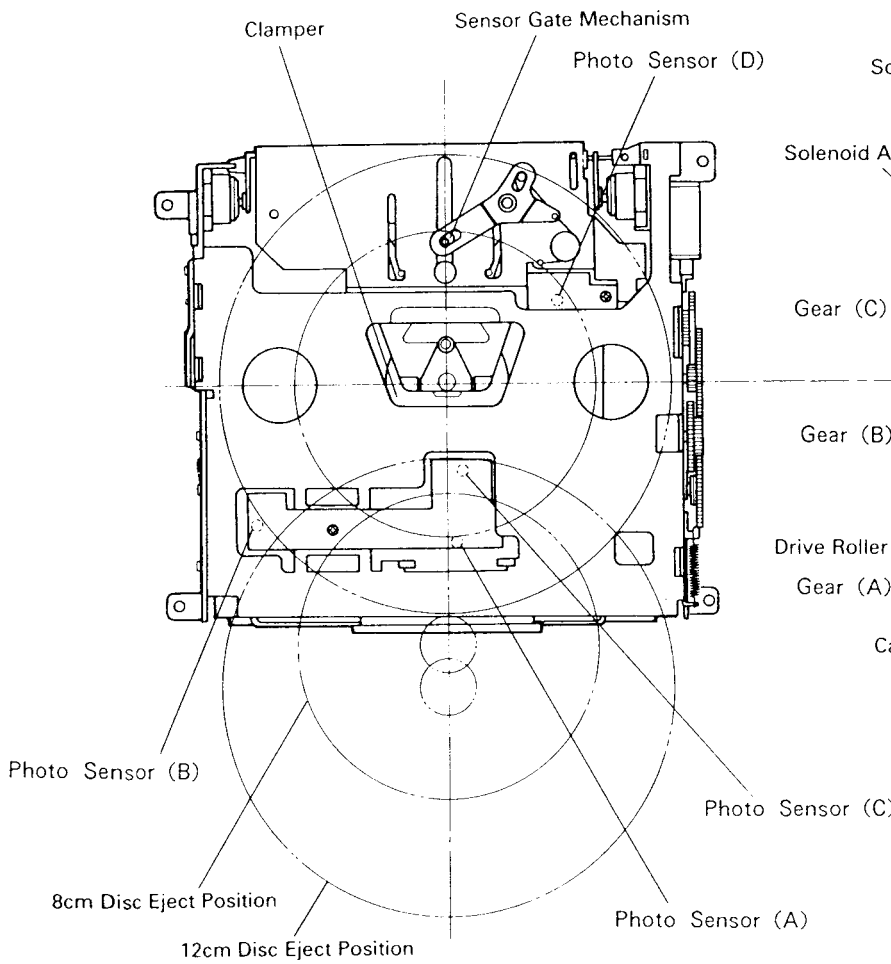


Figure 1

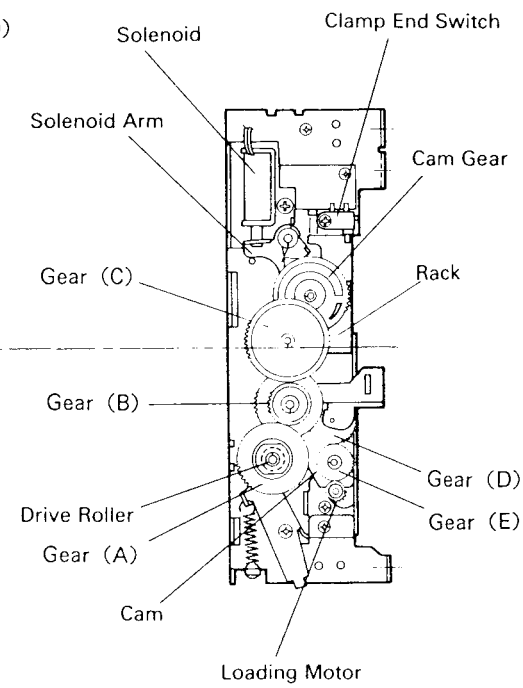


Figure 2

Function	Step	Description	Illustration
LOADING (of a 12cm CD)	⑤	The disc touches the left and right stopper pins, and push them by the feed mechanism. By pushing the stopper pins, the left and right lock levers rotate and the lock pins remove from the lock position of the guide holes.	Figure 3
	⑥	The disc touches the disc stopper and moves the unlocked sensor gate to the outer direction by the feed mechanism.	Figure 4
	⑦	If the disc reaches to the end position, the beam reaches to the photo sensor (B).	Figure 4
	⑧	The mechanism detects that the disc is pulled into the chucking position and starts chucking action.	Figure 4

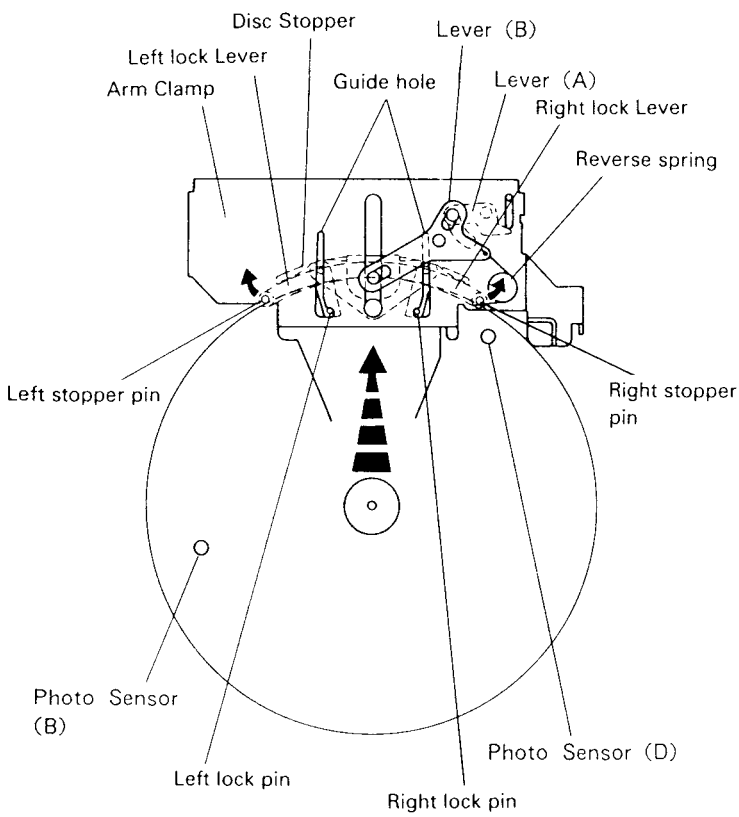


Figure 3

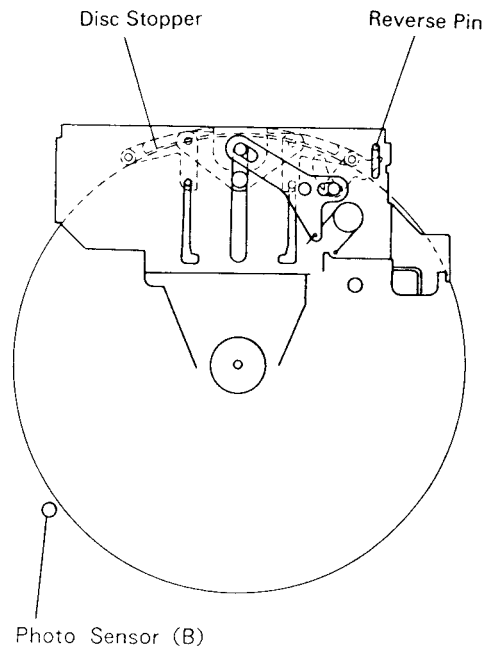
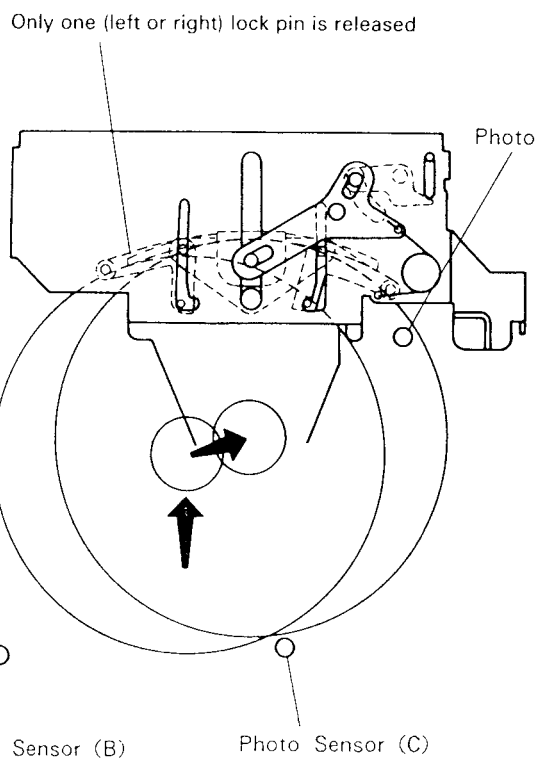


Figure 4

Function	Step	Description	Illustration
LOADING (of a 8cm CD)	① ② ③	The same process as 12cm CD loading operation steps①~③.	Figure 1 Figure 2 Figure 7
	④	The disc reaches to the sensor gate mechanism. The sensor gate mechanism moves depending on the disc insertion position at the disc slot as follows. A) When the disc is inserted at the center of the slot. The disc touches to the disc stopper. The disc cannot push both the left and right stopper pins, so that the locking pins cannot be released. The disc movement stops there. B) When the disc is inserted at the deviated position to the left or right from the center of the slot. First, the disc pushes the left or right stopper pin. The disc cannot push the another stopper pin, so that the locking pins cannot be released. The disc moves by the shape of the disc stopper to the center position and stops.	Figure 5
	⑤	If the beam reaches to the photo sensor (B) and (C) when the beam to the photo sensor (D) is broken by the disc, the mechanism discriminates that the 8cm CD is in the chucking position, and starts chucking action.	Figure 5



When a disc is inserted at the left from the center of the slot.

Figure 5

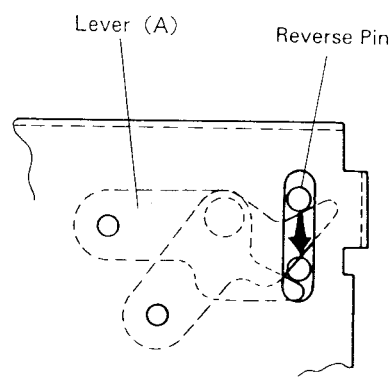


Figure 6

Function	Step	Description	Illustration
CHUCKING	①	The mechanism detects that the disc is pulled into the Chucking position and pulls the solenoid.	Figure 8
	②	The solenoid arm connected with the solenoid starts to rotate and transmits the rotation to the cam gear.	Figure 8
	③	The cam gear starts to rotate and engages with the gear (C) then the driving power of the Loading motor will be transmitted to the cam gear.	Figure 8
	④	The rotating cam gear engages with rack, and moves the rack toward the right.	Figure 8
	⑤	With the movement of the rack, the following functions will be performed simultaneously. A. The clamper moves downward and chucks the disc. B. The drive roller moves downward and releases the disc pinched previously and moves the disc downward. C. Releases the locking on the pickup block and places the unit in the floating status.	Figure 8 Figure 9 Figure 10
	⑥	The rack slides to the right end and releases the engagements between the gear (C) and the cam gear as well as the cam gear and rack, and turns the clamp end switch on.	Figure 8
	⑦	The mechanism detects that the clamp operation has finished, and the Loading motor stops rotating.	Figure 8

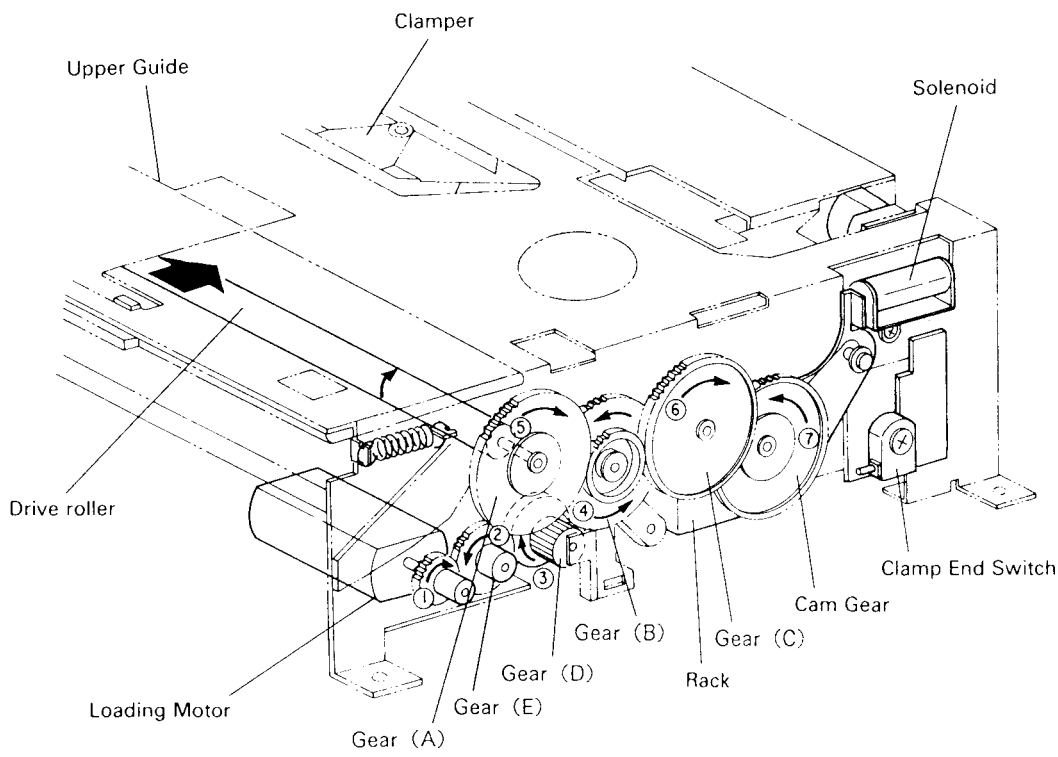


Figure 7

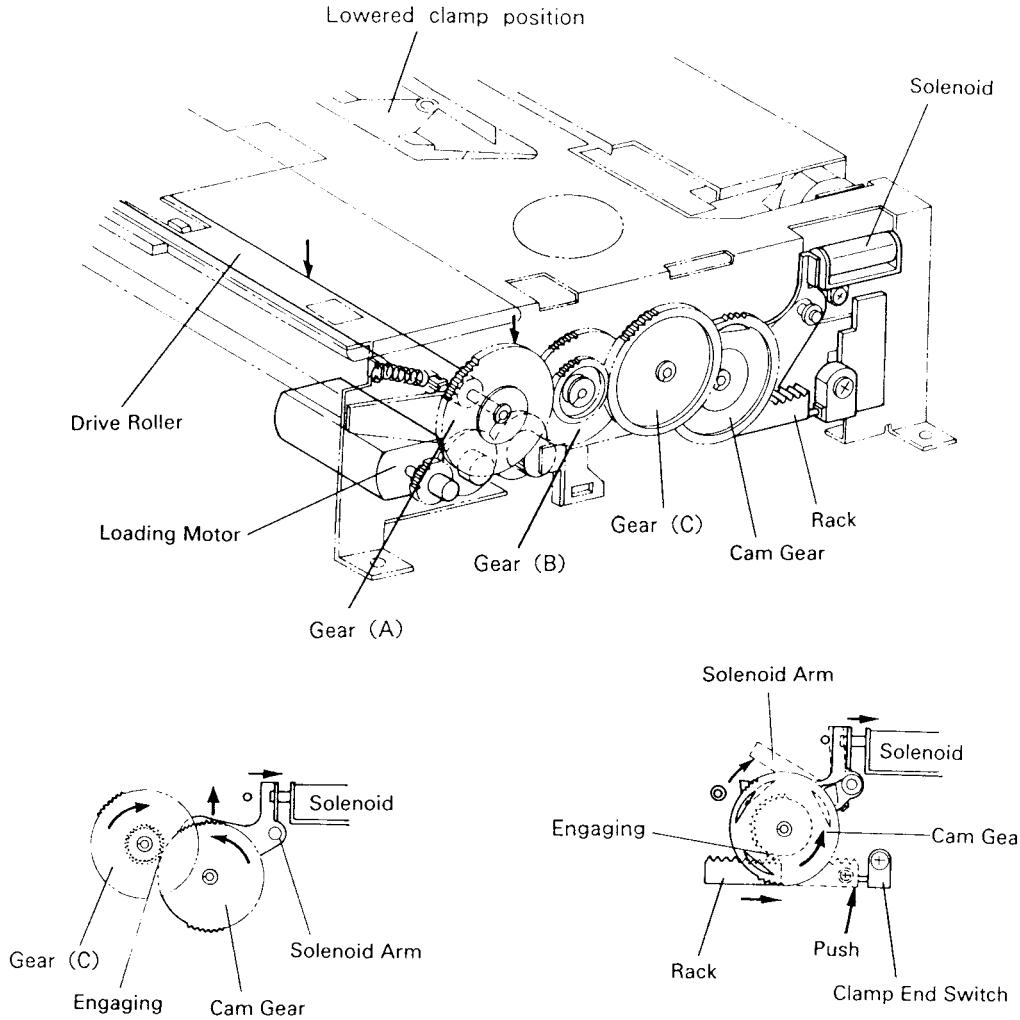


Figure 8

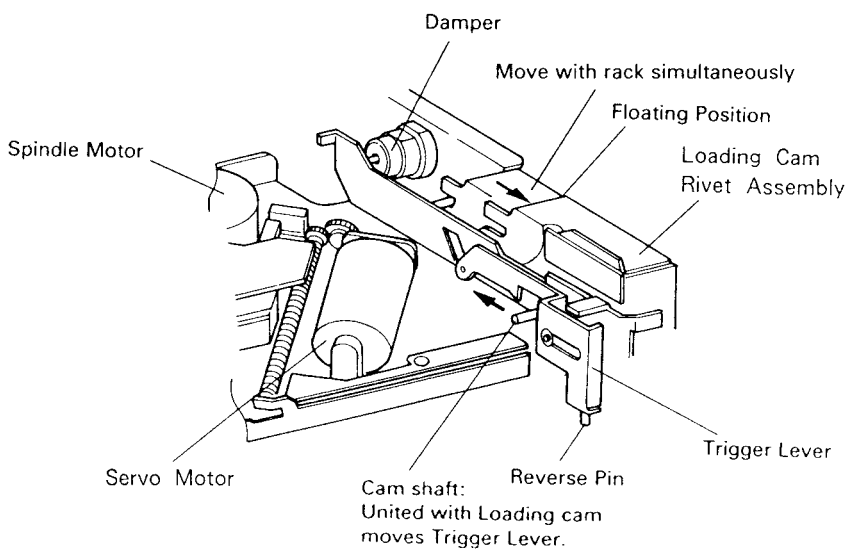


Figure 9

Function	Step	Description	Illustration
PLAY	①	The spindle motor rotates the disc.	Figure 10
	②	The rotation of the servo motor is transmitted to the shaft screw through the gear, moves the pickup.	Figure 10
	③	The Inner limit switch detects the lead-in position of the disc, and the mechanism begins to read the information of the disc.	Figure 10

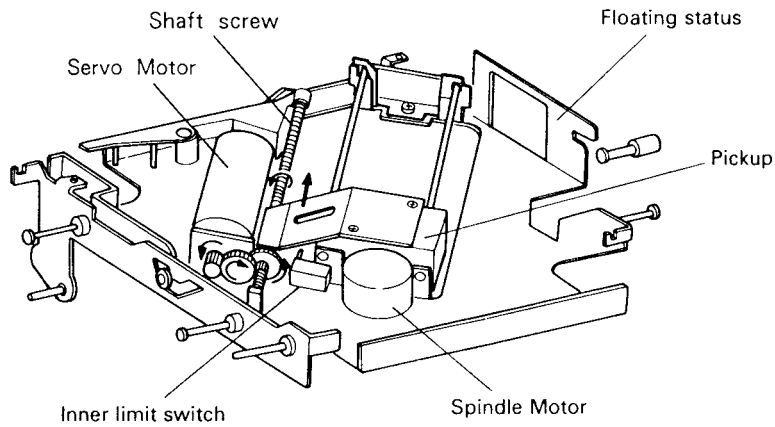


Figure 10

Function	Step	Description
EJECTION (of a 12cm CD)	①	The Loading motor rotates in the reverse direction when loading.
	②	Pulls the solenoid.
	③	The solenoid arm engaged with the solenoid starts rotating and the cam gear engages with the gear (C).
	④	The cam gear rotates and engages with the rack and then moves the rack in the left direction.
	⑤	Engaging with the movement of the rack, the following functions will be performed simultaneously. A. The clamper moves upward and releases the disc. B. The driving roller moves up and lifts the disc, and pinches the disc between it and the upper guide. C. Locks the pickup block. D. The reverse pin moves with engaging the levers (A) and (B), which moves the sensor gate mechanism to the original position.
	⑥	When the rack moves to the left, the engagements between the gear (C) and the cam gear, the cam gear and the rack will be released.

Function	Step	Description
EJECTION (of a 12cm CD)	⑦	The disc which is pinched between the drive roller and the upper guide moves to the outside of the mechanism. When the disc is sent out to the EJECT position, the beam broken by the disc is released and reaches the photo sensor (B).
	⑧	The mechanism detects that the disc has come out to the EJECT position and stops the motor rotation.
	⑨	The mechanism detects that all functions have finished when the disc is pulled out from the mechanism and beam is passed through to the photo sensor (A).
RELOAD (of a 12cm CD)	①	If the disc is not pulled out from the mechanism for 15 seconds after it comes to the EJECT position, the mechanism actuates the Loading function steps ① – ⑧.
EJECTION (of a 8cm CD)	① ② ③ ④	The same process as 12cm CD Eject operation steps ①~④.
	⑤	Engaging with the movement of the rack, the following functions will be performed simultaneously. A. B. ├ The same process as 12cm CD Eject operation step⑤ – A, B, C. C.
	⑥	The same process as 12cm CD Eject operation step ⑥.
	⑦	The disc which is pinched between the drive roller and the upper guide moves to the outside of the mechanism. The disc is released from the drive roller and stops.
	⑧	If the beam reaches the photo sensor (C) after 1.5 seconds from starting ejection, the motor stops.
	⑨	The mechanism detects that all functions have finished, when the disc is pulled out from the mechanism and beam is passed through to the photo sensor (A).

Function	Step	Description
TROUBLE SHOOTING (While Loading a 12cm CD)	①	If the beam to the photo sensor (D) is not broken within 3 seconds after the Loading motor begins rotating as described in the Loading operation step ②, the mechanism takes it as trouble and rotates the Loading motor inversely and pushes the disc out to the EJECT position.
	②	In the Loading step ④, if the beam does not reach the photo sensor (D) within 3 seconds after the beam to the photo sensor (B) is broken, the mechanism take it as trouble and rotates the loading motor inversely and push the disc out to the eject position. If the disc is removed and the beam reaches the photo sensor (A), the mechanism performs loading, chucking and ejection without a disc. (To place the sensor gate mechanism from the END position to the original position the mechanism operates the Ejection step ⑤ – d)
	③	When the disc is pulled out during the loading process, the Loading motor rotates inversely and stops the rotating after certain seconds.
(While loading a 8cm CD)	①	The same process as 12cm CD loading operation step①.
	②	The same process as 12cm CD loading operation step③.
(While Chucking)	①	In the chucking operation (step ①) if the Clamp End Switch doesn't turn on within 3 seconds after the solenoid is pulled, the mechanism takes it as trouble and rotates the Loading motor inversely and pushes the disc out and stops at the EJECT position. When the disc doesn't come to the EJECT position, the motor stops the rotating after certain seconds.
(While Playing)	①	After disc chucking, if the mechanism is unable to read the information of the disc for some reason, it actuates the EJECTION operation steps.
(While Ejecting a 12cm CD)	①	If the disc doesn't come to the EJECT position within 5 seconds after the solenoid is pulled in the EJECTION operation step ①, the mechanism takes it as trouble and rotates the Loading motor inversely and performs the Loading operation steps.
(While Ejecting a 8cm CD)	①	If the beam does not reach the photo sensor (C) within 1.5 seconds after starting ejection, the motor continues rotating. If the beam does not reach the photo sensor (C) within 5 seconds after starting ejection, the mechanism takes it as trouble and changes the motor rotating direction and performs loading steps.

Disassembly Instructions

● For DP24A010/DP24A020/ DP24A110/DP24A11A/ DP24A210/DP24A220 models

1. Removal of the Load/Photo P. C. Boards

(1) Remove three screws marked with "○" as shown in Figures 11 and 12.

(2) Remove the solder (c) as shown in Figure 11.

2. Removal of the LED P. C. Board

(1) Remove the solder (b) as shown in Figure 12.

(2) Remove the screw marked with "▲" as shown in Figure 12.

3. Removal of the End Switch (A) P. C. Board

(1) Remove the two screws marked with "●" as shown in Figure 13.

(2) Remove the two lead wires from the solenoid.

4. Removal of the Pick-Up Unit

(1) Remove the cam gear and the gear (C) as shown in Figure 13.

(2) Remove the four screws marked with "※" as shown Figures 13 and 14.

(3) Both the Pick-Up Unit and Rivet Loading Bracket Assembly will be removed.

Note :The cam gear and gear (C) are mounted with washers. Do not lose the washers, keep them carefully.

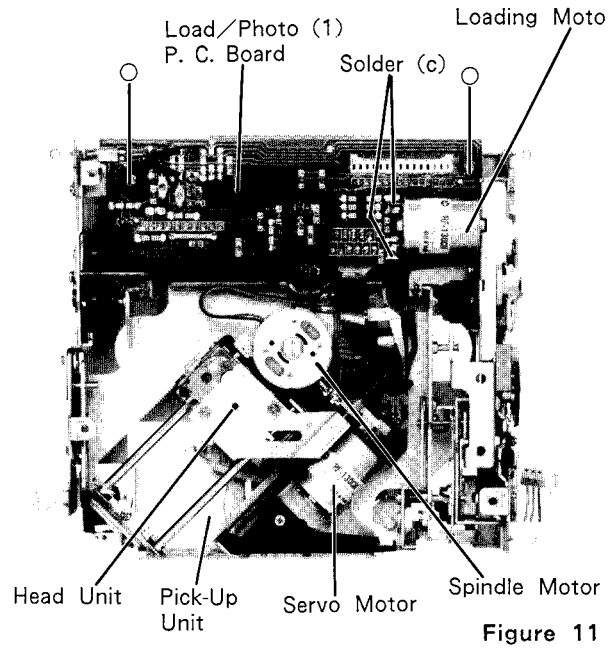


Figure 11

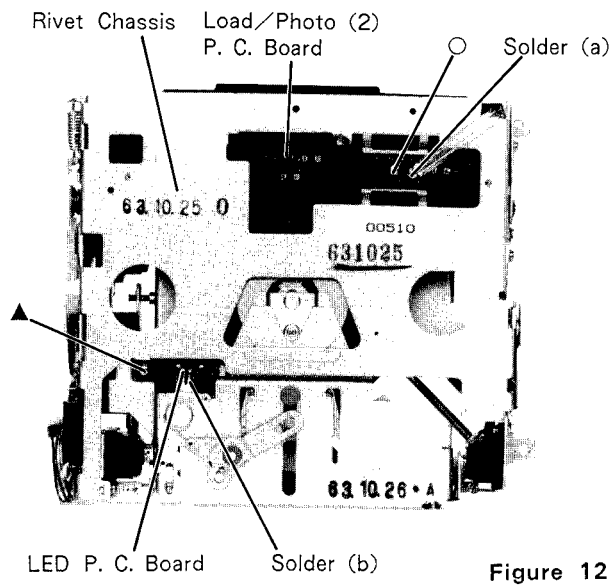


Figure 12

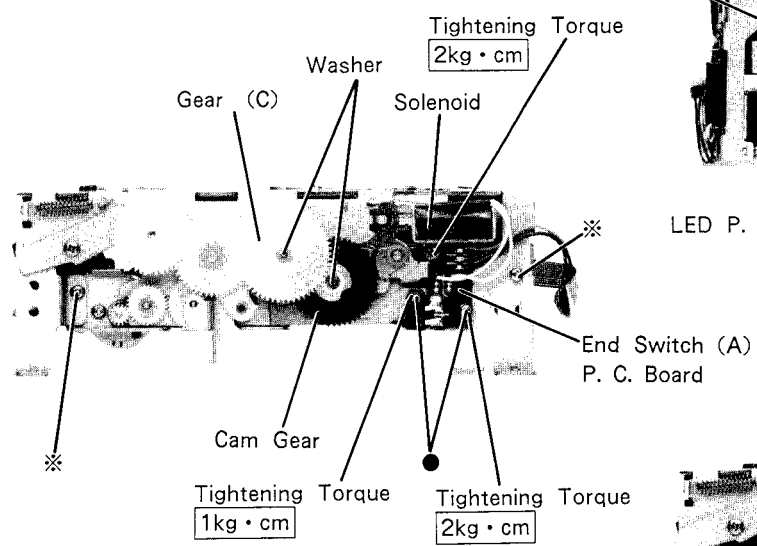


Figure 13

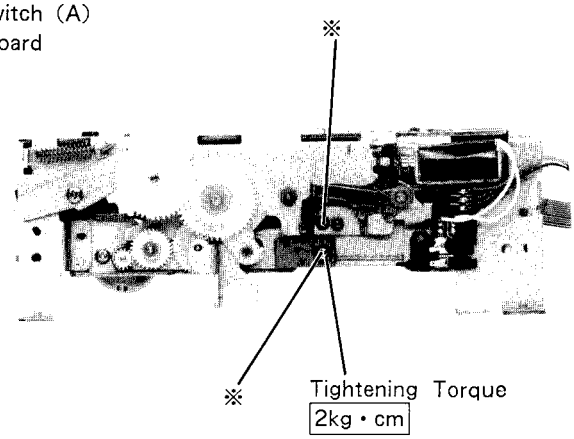


Figure 14

5. Removal of the Rivet Loading Bracket Assembly

(1) After removing the Pick-Up Unit, pull the Rivet Loading Bracket Assembly toward you while twisting it in the direction shown by the arrow, as shown in Figure 15.

6. Removal of the Servo Motor [For DP24A01O / DP24A02O / DP24A11O / DP24A11A / DP24A21O models only]

(1) After removing the Rivet Loading Bracket Assembly, remove the two screws marked with "□" as shown in Figure 16.

Note :Both the Servo Motor and Flexible wire will be removed. Do not damage the flexible wire.

7. Removal of the Head Unit [For DP24A01O/ DP24A02O/DP24A11O/DP24A11A/DP24A21O models only]

(1) After removing the Servo Motor, remove the two screws marked with "◆" as shown in Figure 16.

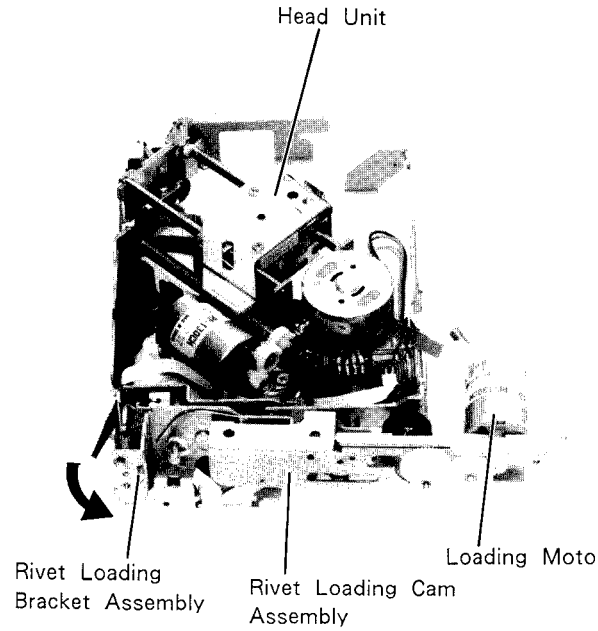


Figure 15

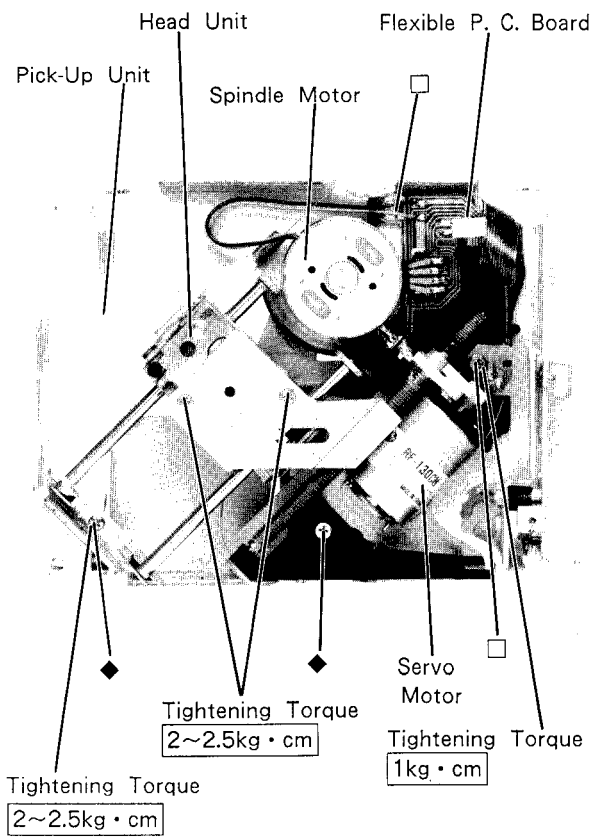


Figure 16

6. Removal of the Servo Motor [For DP24A220 models only]

(1) After removing the Rivet Loading Bracket Assembly, remove the two screws marked with "□" as shown in Figure 17.

Note :Both the Servo Motor and Flexible wire will be removed. Do not damage the flexible wire.

7. Removal of the Head Unit [For DP24A220 models only]

(1) After removing the Servo Motor, remove the five screws marked with "◆" as shown in Figure 17.

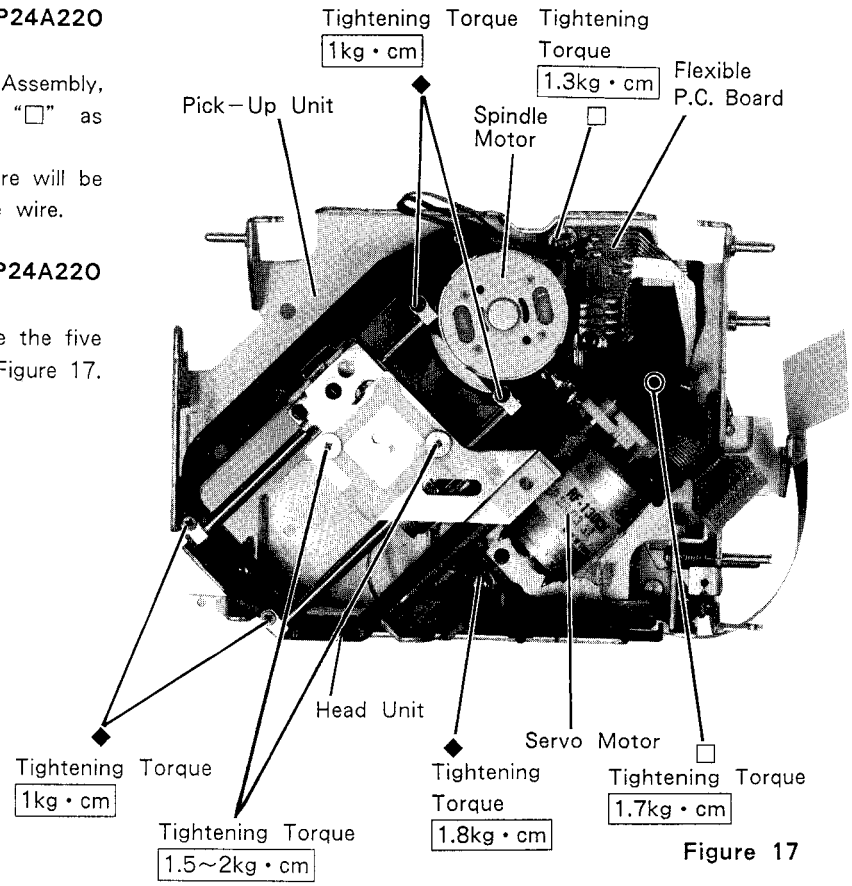


Figure 17

8. Removal of the Rivet Loading Cam Assembly

(1) After removing the Rivet Loading Bracket Assembly, remove the gear (D) and gear (E) as shown in Figure 18.

(2) Remove the Washer and "E" ring as shown in Figures 18 and 20.

Note : 1) Do not lose the washer and "E" ring and keep them carefully.

2) Remove the spring and them at the same time as shown in Figure 18.

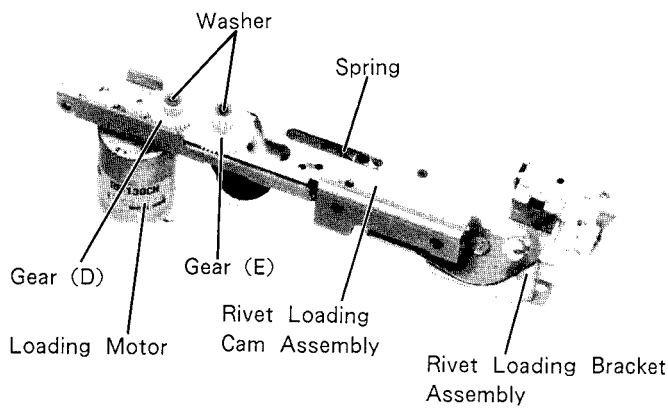


Figure 18

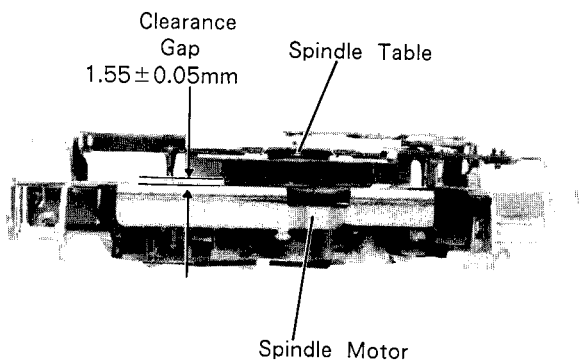


Figure 19

9. Removal of the Loading Motor.

(1) After removing the Rivet Loading Cam Assembly, remove the two screws marked with "△" as shown in Figure 20.

※Useful hints for remounting the cam gear and gear (C).

(1) Set the Rivet Loading cam Assembly to the loading position as shown in Figure 21.

(2) Engage the cam gear with the gear (C) as shown in the Figure 22, and mount them on the shafts (A) of the Arm Load (R) Assembly as shown in Figure 21.

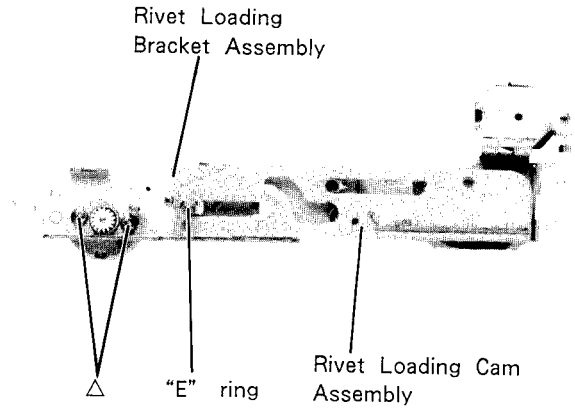


Figure 20

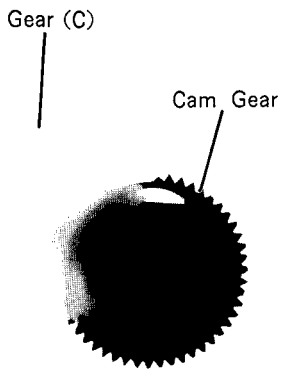


Figure 22

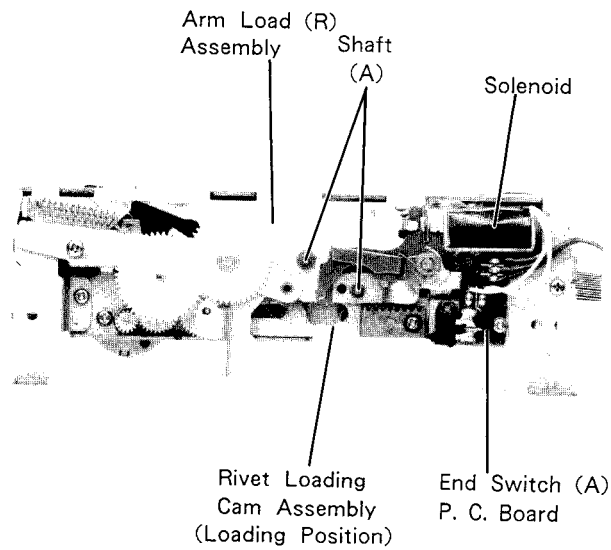


Figure 21

※Caution on remounting the Servo Motor.

(1) After mounting the servo motor, make sure the clearance between the servo motor and flexible wire is more than 0.5mm as shown in Figure 23.

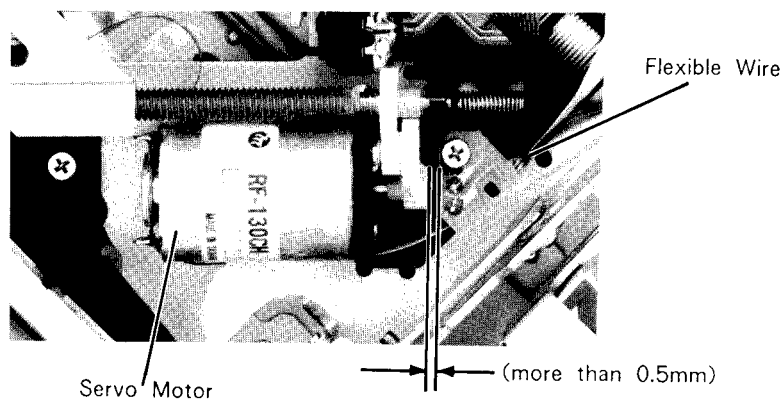


Figure 23

CD Mechanism Assembly Parts List

●For DP24A010/DP24A020/DP24A110/DP24A11A/DP24A210 Models

Symbol No.	Index	Part No.	Description
202	4-H	15C13518W01	Guide, Top (DP-2)
203	5-C	03S44205G14	Screw, Pan (M2 × 5)
204	5-B	30T73687F18	Parallel Wire (2P)
205	4-C	41B12249W02	Spring, Pull
206		04B41345P06	Washer, Lock (M2.1)
207	1-E	41A20219W01	Spring, ROL (L)
208	5-F	45A90817F01	Arm, Solenoid (1)
209	5-F	45A90818F01	Arm, Solenoid (2)
210	5-F	41A92364F01	Spring, Solenoid
211	2-F	07B10907W01	Stopper, Disc
212	4-F	47A61544F02	Plunger, RF Solenoid
213	3-G	75A20934W01	Cushion, Magnet (B)
214	4-F	84A92276F01	END Switch (A) P.C. Board
215		03D40014G66	Screw, W/Washer (M2 × 3.5)
216		03D40014G07	Screw, W/Washer (M2 × 4)
217	4-F	44B90838F01	Gear, Cam
218	4-C	46A91007F02	Stud, Gear
219	4-E	41B12249W07	Spring, Pull
221	2-F	49B90822F01	Roller (G)
223		43A90873F01	Bush, Roller
225	4-C	41A90877F01	Spring, Cam
226		03D40014G62	Screw, W/Washer (M2 × 3)
227	5-C	44A90836F01	Gear (D)
228	5-C	44A90837F01	Gear (E)
229	5-C	04B41345P01	Washer, Lock (M1.2)
230		75B11922W02	Damper, DP-3
231		15A12929W01	Holder, Damper-3
232	4-D	04C42091G06	Ring "E" (M1.5)
233	5-C	04C42091G11	Ring "E" (M2.5)
234	3-C	03S94385F01	Screw, Pan (M1.7 × 2.3)
236	4-C	41A11905W01	Spring, Trigger
237	4-F	04C42091G05	Ring "E" (M2)
238	2-B	07A10921W01	Bracket, Shaft
239	4-A	03A90175F05	Screw, Bind (M2 × 3.7)
240		03S94385F09	Screw, Pan (M2 × 3)
241	4-A	03D40014G75	Screw, W/Washer (M2 × 9)
242	3-B	03D40121T38	Screw, W/Double Washer (M2 × 5)
243	3-E	43A22104W01	Table, Spindle
244	3-B	07B10923W01	Bracket, Screw
245	2-C	47A20146W01	Shaft, Pick-up
246	4-D	43A11901W01	Bush, Triger (A)
247		04B41345P15	Washer, Lock (M1.2)
248	3-D	01B12125W01	Assy., Riv. Pick Chassis
249	3-B	47A10927W01	Shaft, Screw
250	3-B	44A90998F01	Gear, Screw
252	4-B	44A90996F01	Gear, Motor
253	4-G	41B12249W08	Spring, Pull
254	4-C	44A90997F01	Gear, Middle
255		04B41345P02	Washer, Lock (M1.7)
256	4-F	03S94385F23	Screw, Pan (M2 × 5)
257	5-D	03S94385F07	Screw, Pan (M2 × 2)
258	3-C	07C10922W01	Bracket, Motor
259	4-B	41A10928W03	Spring, Shaft
262	5-G	04S40075G12	Washer, Polyslider (M3.1)
263	3-B	41C10925W01	Spring, Nut
264	3-E	14A96087F01	Sheet, Table
265	4-B	84T15149W01	FPC Actuate P.C.Board
266	4-E	01A12222W01	Assy., Clamper Rivet
267	4-E	01B12123W01	Assy., Riv. Arm Clamp
269	3-F	41A11903W01	Spring, Lever
270	3-F	04B41345P04	Washer, Lock (M2.6)
271	3-E	07A30152W01	Bracket, Disc Stopper
272	3-F	41B12249W01	Spring, Pull
273	4-F	07A11468W01	Plate, Top
274	5-C	44A90830F01	Rack, Cam
275	4-F	03S44205G94	Screw, Pan (M1.7 × 2)
277	2-B	47A21175W01	Shaft, Pick-up
279	1-C	41B12249W03	Spring, Pull
280	2-E	41B12249W04	Spring, Pull
281	4-D	41B12249W05	Spring, Pull

NOTE : The parts without part numbers are not supplied.

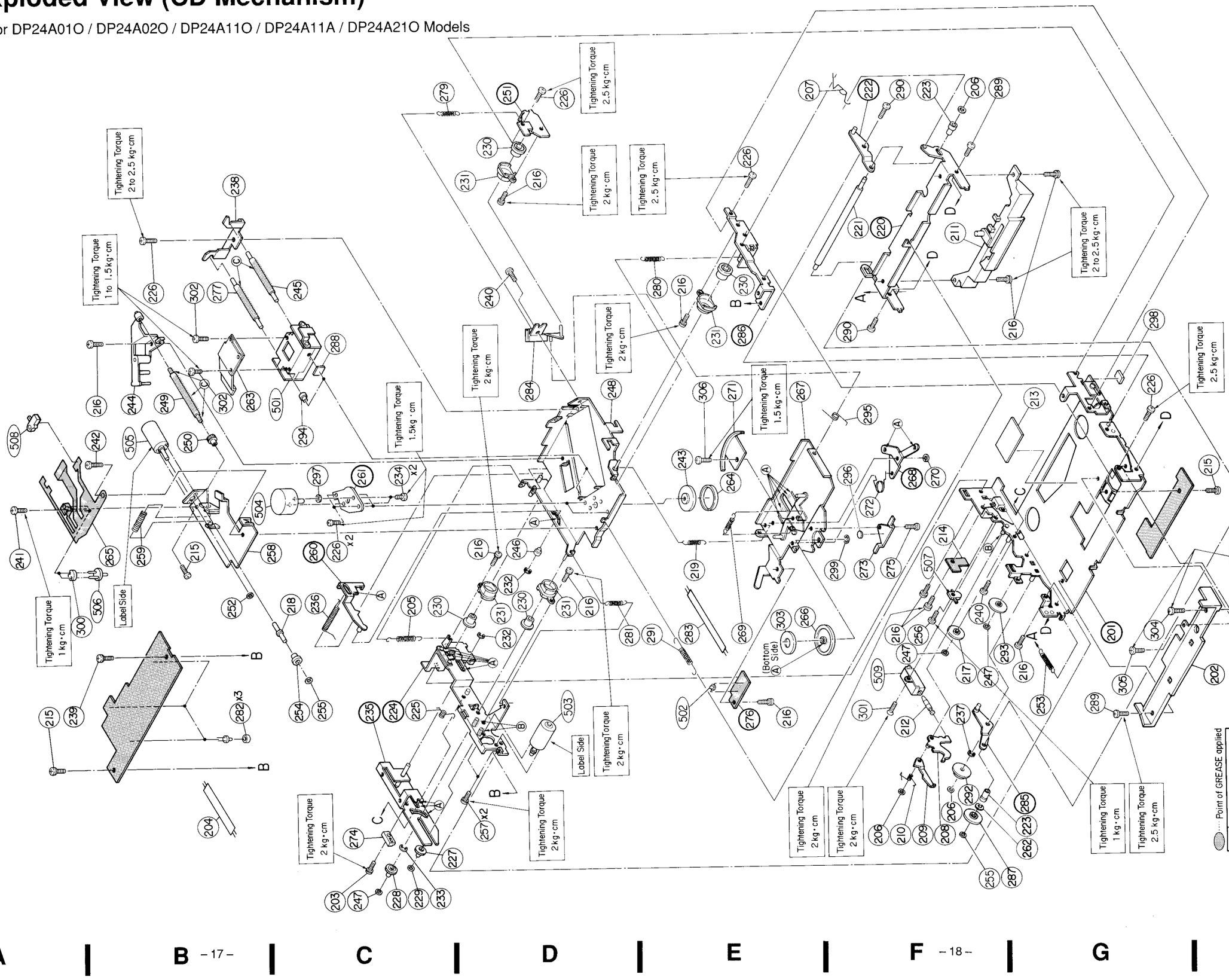
Symbol No.	Index	Part No.	Description		
282	4-B	43A20208W01	Spacer, LED		
283	4-E	30T73687F19	Parallel Wire (2P)		
284	3-D	01A92321F02	Assy., Bracket Rivet (CLP-LP)		
287	5-G	01T15181W01	Assy., Clutch DP		
288	2-C	75A21138W01	Sheet, Shaft		
289		03A90175F01	Screw, Bind (M2 × 4)		
290		03A90175F02	Screw, Bind (M2 × 3)		
291	4-E	41B90875F07	Spring, Pull		
292	5-F	44A90834F01	Gear (B)		
293	4-F	44A90835F01	Gear (C)		
294	3-C	43A13508W01	Spacer, Shaft		
295	3-F	41A96086F01	Spring, Arm Clamp		
296	3-F	43A41006F01	Spacer, Polyslider		
297	3-C	43A22457W01	Spacer		
or		43A22457W02	Spacer		
298	2-G	75A20928W01	Rubber, Top Chassis		
299	4-F	04B41345P24	Washer, Lock (M2.1)		
300	4-A	43A20208W02	Spacer, LED (A)		
301	4-F	03S94385F14	Screw, Countersink (M2.6 × 3)		
302		03S94385F25	Screw, Pan (M2 × 4)		
303	4-E	75A20128W01	Sheet, Holder		
304	4-G	03S44205G96	Screw, Bind (M2 × 5)		
305	4-G	03S44205G95	Screw, Bind (M2 × 3)		
306	3-E	03S94385F24	Screw, Pan (M2 × 3)		
Miscellaneous					
501	3-C	88T15309W01	Pick-up, Unit		
502	4-E	48T16057W02	LED, AN501 (RED)		
503	4-D	01V13100W97	Assy., Motor Load		
504	3-C	59T91005F01	Motor, Spindle		
505	3-B	59T52973F03	Motor, Servo		
506	4-B	48T92913F01	Transistor, Photo PT360		
507	4-F	40T71025F03	Switch, Detector (CAM END)		
508	3-A	40T71025F01	Switch, Detector (LIMIT)		
509	4-F	01A90816F01	Assy., Solenoid DP Frame		

Symbol No.	Index	Part No.	Description		

NOTE : The parts without part numbers are not supplied.

Exploded View (CD Mechanism)

● For DP24A01O / DP24A02O / DP24A11O / DP24A11A / DP24A21O Models



CD Mechanism Assembly Parts List

● For DP24A220 Model

Symbol No.	Index	Part No.	Description
202	4-H	15C13518W01	Guide, Top (DP−2)
203	5-C	03S44205G14	Screw, Pan (M2 × 5)
204	5-B	30T73687F18	Parallel Wire (2P)
205	4-C	41B12249W02	Spring, Pull
206		04B41345P06	Washer, Lock (M2.1)
207	1-E	41A20219W01	Spring, ROL (L)
208	5-F	45A90817F01	Arm, Solenoid (1)
209	5-F	45A90818F01	Arm, Solenoid (2)
210	5-F	41A92364F01	Spring, Solenoid
211	2-F	07B10907W01	Stopper, Disc
212	4-F	47A61544F02	Plunger, RF Solenoid
213	3-G	75A20934W01	Cushion, Magnet (B)
214	3-F	84A92276F01	END Switch (A) P.C. Board
215		03D40014G66	Screw, W/Washer (M2 × 3.5)
216		03D40014G07	Screw, W/Washer (M2 × 4)
217	4-F	44B90838F01	Gear, Cam
218	4-C	46A91007F02	Stud, Gear
219	4-E	41B12249W07	Spring, Pull
221	2-F	49B90822F01	Roller (G)
223		43A90873F01	Bush, Roller
225	4-C	41A90877F01	Spring, Cam
226		03D40014G62	Screw, W/Washer (M2 × 3)
227	5-C	44A90836F01	Gear (D)
228	5-C	44A90837F01	Gear (E)
229	5-C	04B41345P01	Washer, Lock (M1.2)
230		75B11922W02	Damper, DP−3
231		15A12929W01	Holder, Damper−3
232		04C42091G06	Ring "E" (M1.5)
233	5-C	04C42091G11	Ring "E" (M2.5)
234	3-C	27C30861W01	Base, Pick-up
236	4-C	41A11905W01	Spring, Trigger
237	4-F	04C42091G05	Ring "E" (M2)
238	3-D	03S94385F26	Screw Countersink (M1.7×2.6)
239	4-A	03A90175F05	Screw, Bind (M2 × 3.7)
240		03S94385F09	Screw, Pan (M2 × 3)
241	4-A	03S94385F20	Screw, Pan (M2 × 8.5)
242	3-B	03D40121T38	Screw, W/Double Washer (M2 × 5)
243	3-E	43A30923W01	Table, Spindle
244	3-B	07B10923W01	Bracket, Screw
245		47A30925W01	Shaft, Pick-up
246	4-D	43A11901W01	Bush, Triger (A)
247		04B41345P15	Washer, Lock (M1.2)
248	3-D	01B12125W01	Assy., Riv. Pick Chassis
249	3-B	47A10927W02	Shaft, Screw
250	3-B	44A90998F01	Gear, Screw
252	4-B	44A90996F01	Gear, Motor
253	4-G	41B12249W08	Spring, Pull
254	4-C	44A90997F01	Gear, Middle
255		04B41345P02	Washer, Lock (M1.7)
256	4-F	03S94385F23	Screw, Pan (M2 × 5)
257	5-D	03S94385F07	Screw, Pan (M2 × 2)
258	3-C	07C10922W01	Bracket, Motor
259	4-B	41A10928W03	Spring, Shaft
261		03D40014G02	Screw, W/Washer (M2 × 6)
262	3-E	41A10928W04	Spring, Comp
263	3-B	41C10925W02	Spring, Nut
264	3-E	14A96087F01	Sheet, Table
265	4-B	84T15149W01	FPC Actuate P.C.Board
266	4-E	01A31429W01	Assy., Clamper Rivet
267	3-E	01B12123W01	Assy., Riv. Arm Clamp
269	4-E	41A11903W01	Spring, Lever
270	3-F	04B41345P04	Washer, Lock (M2.6)
271	3-E	07A30152W01	Bracket, Disc Stopper
272	3-F	41B12249W01	Spring, Pull
273	4-F	07A11468W01	Plate, Top
274	5-C	44A90830F01	Rack, Cam
275	4-F	03S44205G94	Screw, Pan (M1.7 × 2)
277	3-E	43B30924W01	Spindle, Hub
279	1-C	41B12249W03	Spring, Pull
280	2-E	41B12249W04	Spring, Pull
281	4-D	41B12249W05	Spring, Pull
282	4-B	43A20208W01	Spacer, LED
283	4-E	30T73687F19	Parallel Wire (2P)
284	3-D	01A92321F02	Assy., Bracket Rivet (CLP−LP)
287	5-G	01T15181W01	Assy., Clutch DP
288		07A30961W01	Stopper, Shaft (B)
289		03A90175F01	Screw, Bind (M2 × 4)
290		03A90175F02	Screw, Bind (M2 × 3)
291	4-E	41B90875F07	Spring, Pull
292	5-F	44A90834F01	Gear (B)
293	4-F	44A90835F01	Gear (C)
294		03S70494F14	Screw, Pan (M1.7 × 4)
295	3-F	04S40075G06	Washer, Plyslider (M2.1)
296	3-F	43A41006F01	Spacer, Polyslider
297	3-E	03S94385F24	Screw, Pan (M2 × 3)
298	2-G	75A20928W01	Rubber, Top Chassis
299	4-F	04B41345P24	Washer, Lock (M2.1)
300	4-A	43A20208W02	Spacer, LED (A)
301	4-F	03S94385F14	Screw, Countersink (M2.6 × 3)
302	2-B	03S94385F25	Screw, Pan (M2 × 4)
303	4-E	75A20128W01	Sheet, Holder
304	4-G	03S44205G96	Screw, Bind (M2 × 5)
305	4-G	03S44205G95	Screw, Bind (M2 × 4)

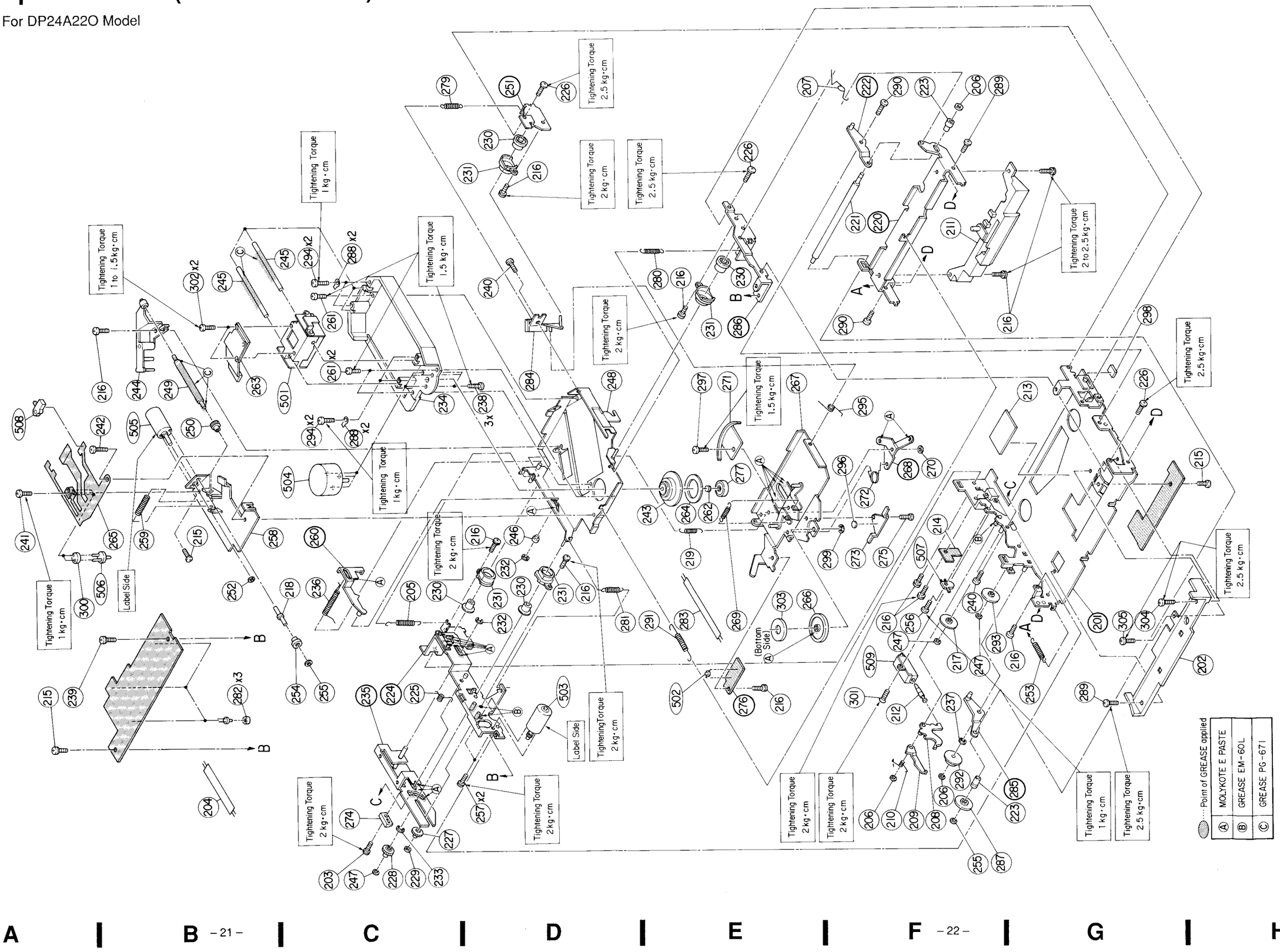
Miscellaneous

501	3-C	88T15309W01	Pick-up, Unit
502	4-E	48T16057W02	LED, AN501 (RED)
503	4-D	01V13100W97	Assy., Motor Load
504	3-C	59T91005F02	Motor, Spindle
505	3-B	59T52973F03	Motor, Servo
506	4-B	48T92913F01	Transistor, Photo PT360
507	4-F	40T71025F03	Switch, Detector (CAM END)
508	3-A	40T71025F01	Switch, Detector (LIMIT)
509	4-F	01A90816F01	Assy., Solenoid DP Frame

NOTE : The parts without part numbers are not supplied.

Exploded View (CD Mechanism)

● For DP24A22O Model



CD Mechanism Assembly Parts List

● For DP22A07O／DP22A08O／DP22A31O／DP22A32O Models

Symbol No.	Index	Part No.	Description
202	4-H	15C13518W01	Guide, Top (DP－2)
203	5-C	03S44205G14	Screw, Pan (M2×5)
204	5-B	30T73687F18	Parallel, Wire (2P)
205		03A90175F01	Screw, Bind (M2×4)
206		04B41345P06	Washer, Lock (M2.1)
207	1-E	41A20219W01	Spring, ROL
208	5-F	45A90817F01	Arm, Solenoid. (1)
209	5-F	45A90818F01	Arm, Solenoid. (2)
210	5-F	41A92364F01	Spring, Solenoid.
□ 211	2-F	07B10907W02	Stopper, Disc
☆ 211	2-F	07B10907W02	Stopper, Disc
◇ 211	2-F	07B10907W02	Stopper, Disc
212	4-F	47A61544F02	Plunger, F／R
213	4-F	03S94385F14	Screw, Countersink (M2.6×3)
214	4-F	84A92276F01	END Switch (A) P.C. Board
215		03D40014G66	Screw, W／Washer (M2×3.5)
216		03D40014G07	Screw, W／Washer (M2×4)
217	4-F	44B90838F01	Gear, Cam
218	4-B	46A91007F01	Stud, Gear
219	4-E	41B12249W07	Spring, Pull
221	2-F	49B90822F01	Roller (G)
223		43A90873F01	Bush, Roller
225	4-C	41A90877F01	Spring, Cam
226		03D40014G62	Screw, W／Washer (M2×3)
227	5-C	44A90836F01	Gear (D)
228	5-C	44A90837F01	Gear (E)
229	5-C	04B41345P01	Washer Lock (M1.2)
230		75B11922W02	Damper, DP-3
231		15A12929W01	Holder, Damper DP-3
232		04C42091G06	Ring "E" (M1.5)
233		04C42091G11	Ring "E" (M2.5)
234	3-D	03S94385F01	Screw, Pan (M1.7×2.3)
236	4-B	41A11905W01	Spring, Trigger
237	3-F	04B41345P04	Washer, Lock (M2.6)
239		04B41345P24	Washer, Lock (M2.1)
240		03S94385F09	Screw, Pan (M2×3)
241		04B41345P15	Washer, Lock (M1.2)
242	3-F	30T73687F14	Parallel, Wire (3P)
243	3-E	43A22104W01	Table, Spindle
244	3-A	07A90992F01	Bracket, Screw
245	3-D	47A91004F01	Shaft, Pick-up
246	4-D	43A11901W01	Bush, Trigger (A)
247		03S94385F10	Screw, Pan (M2×4)
248	3-E	07A92196F01	Bracket, Flex Wire
249	3-C	03A91001F01	Shaft, Screw
250	3-C	44A90998F01	Gear, Screw
252	4-B	44A90996F01	Gear, Motor
253	4-G	41B12249W08	Spring, Pull
254	4-B	44A90997F01	Gear, Middle
255	4-B	04B41345P13	Washer, Lock (M1.7)
256	4-F	03S94385F23	Screw, Pan (M2×5)
△ 257	1-A	03S44205G42	Screw, Pan (M2.6×4)
□ 257	1-A	03S44205G42	Screw, Pan (M2.6×4)
◇ 257	1-A	03S44205G42	Screw, Pan (M2.6×4)
258	3-B	01V91700F07	Assy., Motor Unit
259	3-A	41A90999F01	Spring, Screw
261	1-C	41B21241W02	Spring, Pull
262	2-C	30T92773F01	Cable, Flex (16P)
263	2-B	26A94948F01	Shield
△ 263	2-B	26A94948F01	Shield
□ 263	2-B	26A94948F01	Shield
◇ 263	2-B	26A94948F01	Shield

Notes : The parts without part numbers are not supplied.
△ : For DP22A07O model only, □ : For DP22A08O model only, ☆ : For DP22A31O model only,
◇ : For DP22A32O model only, Others : Common

Symbol No.	Index	Part No.	Description
264	3-E	14A96087F01	Sheet, Table
265	4-B	84T15747W01	FPC Actuator P. C. Board
266	4-E	01A12222W01	Assy., Clamper Rivet
267	3-E	01B12123W01	Assy., Riv. Arm Clamp
269	3-F	41B12249W01	Spring, Slider
270		43A90995F01	Stopper, Shaft
271	3-E	07A30152W01	Bracket, Disc Stopper
272	4-E	41A11903W01	Spring, Lever
273	4-F	07A11468W01	Plate, Top
274	5-C	44A90830F01	Rack, Cam
275	4-F	03S44205G94	Screw, CounterSink (M2.6 × 8)
△ 277	2-C	01V23100W27	Assy., Pick-up Unit-S2
□ 277	2-C	01V24900W02	Assy., Pick-up Unit-S2
☆ 277	2-C	01V24900W02	Assy., Pick-up Unit-S2
◇ 277	2-C	01V24900W02	Assy., Pick-up Unit-S2
279	4-C	41B21241W01	Spring, Pull
280	2-E	41B21241W03	Spring, Pull
281	4-D	41B21241W04	Spring, Pull
282	5-B	43A20208W01	Spacer, LED
283	4-E	30T73687F20	Parallel, Wire (2P)
284	3-D	01A92321F02	Assy., Bracket, Rivet (CLP-LP)
287	5-F	01T15181W01	Assy., DP Clutch
288	5-F	04B41345P02	Washer, Lock (M1.7)
290		03A90175F02	Screw, Bind (M2×3)
291	4-E	41B90875F07	Spring, Pull
292	5-F	44A90834F01	Gear (B)
293	4-F	44A90835F01	Gear (C)
295	4-D	43A20208W03	Spacer, LED (A)
296	4-E	75A20128W01	Sheet, Holder
297		03S94385F10	Screw, Pan (M2×4)
298	3-B	03S94385F12	Screw, Pan (M2.6×6)
299	3-A	43A41006F05	Spacer, Polyslider
300	3-C	07A90993F01	Bracket, Pick-up
301	2-D	01A90994F01	Spring, Nut
302	3-D	03S94385F03	Screw, Pan (M1.7×1.8)
303	3-E	84T90887F01	FPC PHOTO P. C. Board
304	3-D	14S71058F40	Insulator, Cover
305	3-D	03S94385F06	Screw, Pan (M2×1.8)
306	3-B	41A94452F01	Spring, Motor
307	3-E	14A28008W01	Spacer
308	3-F	41A96086F01	Spring, Arm Clamp
309	3-F	43A41006F01	Spacer, Polyslider
310	3-E	03S94385F24	Screw, Pan (M2 × 3)
311	4-G	03S44205G96	Screw, Bind (M2 × 5)
312	4-G	03S44205G95	Screw, Bind (M2 × 4)

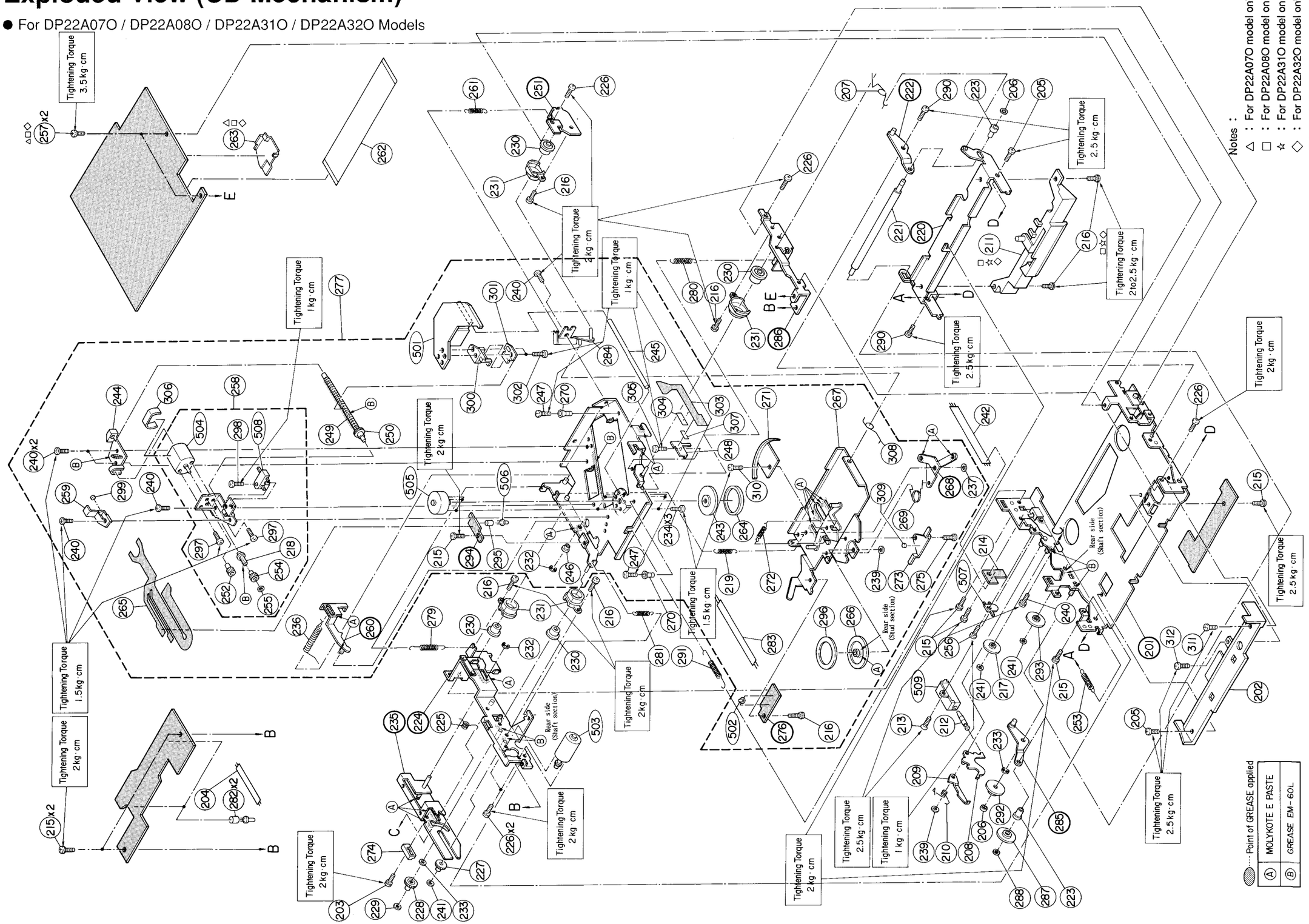
Miscellaneous

Symbol No.	Index	Part No.	Description
501	3-C	88T90878F01	Pick-up, Unit
502	4-E	48T16057W02	LED, AN501-B1 (RED)
503	4-D	01V21900W45	Assy., Motor Load
504	3-B	59T90879F01	Motor, Servo
505	3-C	59T91005F01	Motor, Spindle
506	3-D	48T92913F01	Transistor, Photo PT360
507	4-F	40T71025F03	Switch, Detector
508	3-B	40T71025F01	Switch, Detector
509	4-F	01A90816F01	Assy., Solenoid DP Frame

Notes : The parts without part numbers are not supplied.
△ : For DP22A07O model only, □ : For DP22A08O model only, ☆ : For DP22A31O model only,
◇ : For DP22A32O model only, Others : Common

Exploded View (CD Mechanism)

● For DP22A07O / DP22A08O / DP22A31O / DP22A32O Models



Disassembly Instructions

● For DP22A07O／DP22A08O／DP22A31O／DP22A32O models

1. Removal of Main P. C. Board

(1) Unsolder the solder (a) as shown in Figure 24.
(2) Remove two screws marked "○" as shown in Figure 24.
(3) Disconnect all connectors from the Main P. C. Board while lifting up the Main P. C. Board A section.

Note : When unsoldering the solder (a), take care not to break the parallel wire.

2. Removal of Interface P. C. Board

(1) After removing the Main P. C. Board, unsolder the solder (b) as shown in Figure 25.
(2) Remove two screws marked "×" as shown in Figure 25.
(3) Remove two jumper wires connected to the loading motor.

Note : When unsoldering the solder (b), take care not to break the parallel wire.

3. Removal of Sensor P. C. Board

(1) Unsolder the solder (c) as shown in Figure 26.
(2) Remove one screw marked "△" as shown in Figure 26.

Note : When unsoldering the solder (c), take care not to break the parallel wire.

4. Removal of End Switch P. C. Board

(1) Unsolder the solder (d) and (e) as shown in Figure 27.
(2) Remove two screws marked "□" as shown in Figure 27.

Note : When unsoldering the solder (d), take care not to break the parallel wire.

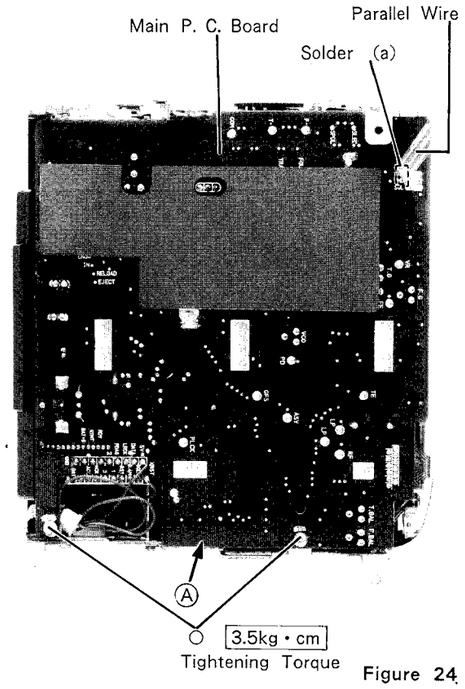


Figure 24

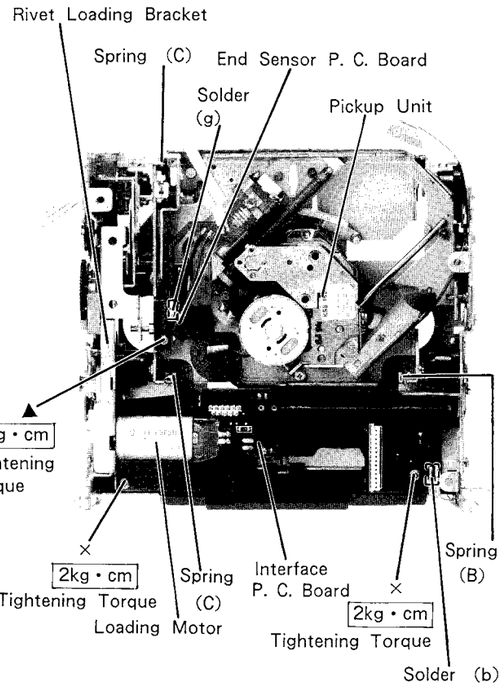


Figure 25

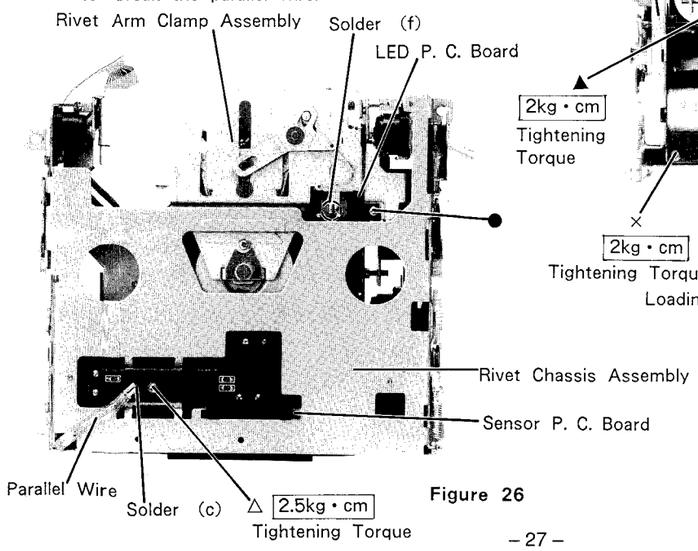


Figure 26

5. Removal of LED P. C. Board

(1) Unsolder the solder (f) as shown in Figure 26.
(2) Remove one screw marked "●" as shown in Figure 26.

Note : When unsoldering the solder (f), take care not to break the parallel wire.

6. Removal of End Sensor P. C. Board

(1) After removing the Main P. C. Board, unsolder the solder (g) as shown in Figure 25.
(2) Remove one screw marked "▲" as shown in Figure 25.

Note : When unsoldering the solder (g), take care not to break the parallel wire.

7. Removal of Damper (L) Bracket

(1) After removing the Main and Interface P. C.Boards, remove one spring (A) as shown in Figure 28.
(2) Remove one screw marked "■" as shown in Figure 28.
(3) Remove the damper from the Pickup Unit shaft, and the bracket can be removed.

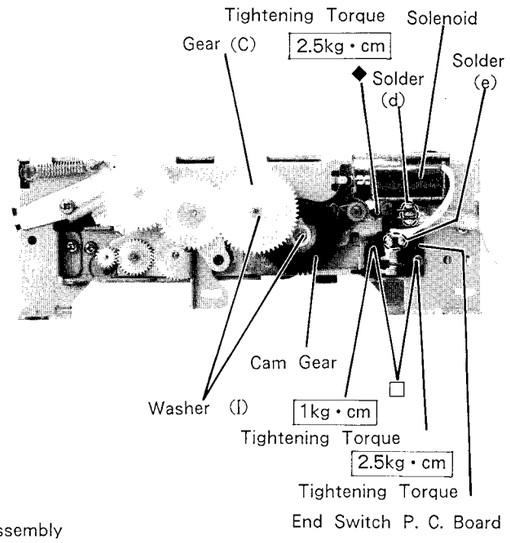


Figure 27

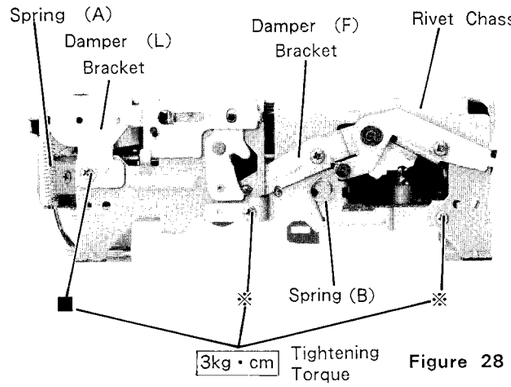


Figure 28

8. Removal of Damper (F) Bracket

(1) After removing the Main and Interface P. C. Boards, remove two springs (B) as shown in Figures 25 and 28.
(2) Remove two screws marked "※" as shown in Figure 28.
(3) Remove the damper from the Pickup Unit shaft, and the bracket can be removed.

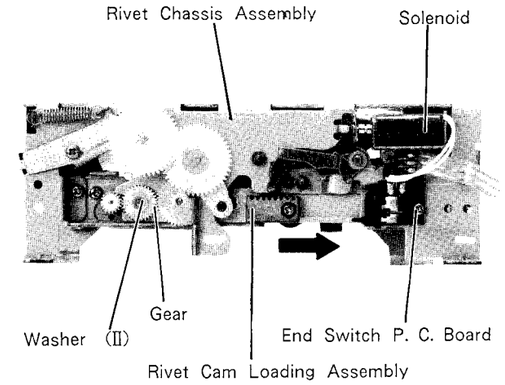


Figure 29

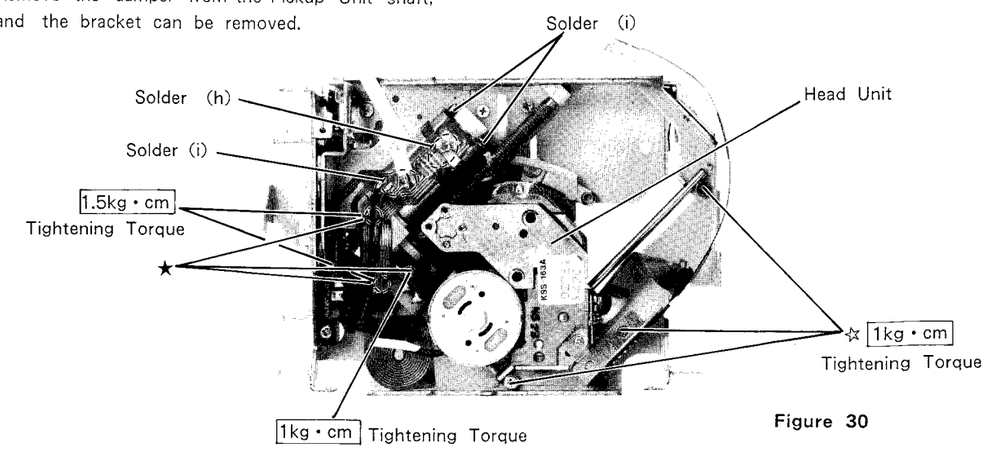


Figure 30

9. Removal of Pickup Unit

(1) After removing the both bracket for the damper (L) and (F), remove the washer (I), cam gear and gear (C) as shown in Figure 27.

(2) Remove three screws marked "*", and the Pickup Unit with Rivet Loading bracket Assembly can be removed as shown in Figure 31.

(3) Remove two springs (C), remove the damper from the Pickup Unit shaft, and then the Rivet Loading Bracket Assembly can be removed as shown in Figure 25.

10. Removal of Head Unit

(1) Unsolder solder (h) as shown in Figure 30.

(2) Remove three screws marked "☆" as shown in Figure 30.

11. Removal of Servo Motor P. C. Board

(1) After removing the Head Unit, unsolder three solder (i) as shown in Figure 30.

(2) Remove three screws marked "★" as shown in Figure 30.

12. Removal of Loading Motor

(1) After removing the Rivet Loading Bracket, remove one washer (II) and gear as shown in Figure 29.

(2) After moving the Rivet Cam Loading Assembly in the arrow direction, remove two screws marked "◇" as shown in Figures 29 and 31.

13. Removal of Solenoid

(1) Unsolder the solder (e) as shown in Figure 27.

(2) Remove one screw marked "◆" as shown in Figure 27.

Precautions during Disassembling and Assembling

1) Be sure to use brand-new washer and do not use any washer which was previously used. The new washer should not have peeling on cleavage.

2) When performing soldering, take care that temperature of the iron tip will not exceed 320℃ and soldering time should be less than 3 seconds. Also make sure there is no defect soldering such as loose solder, solder short and foil breakage.

3) Useful hints for remounting the can gear and gear (C).

① Set the Rivet Loading can Assembly to theloading position as shown in Figure 33.

② Engage the gear can with the gear (C) as shown in the Figure 32, and mount them on the shafts (A) of the Arm Load (R) Assembly as shown in Figure 33.

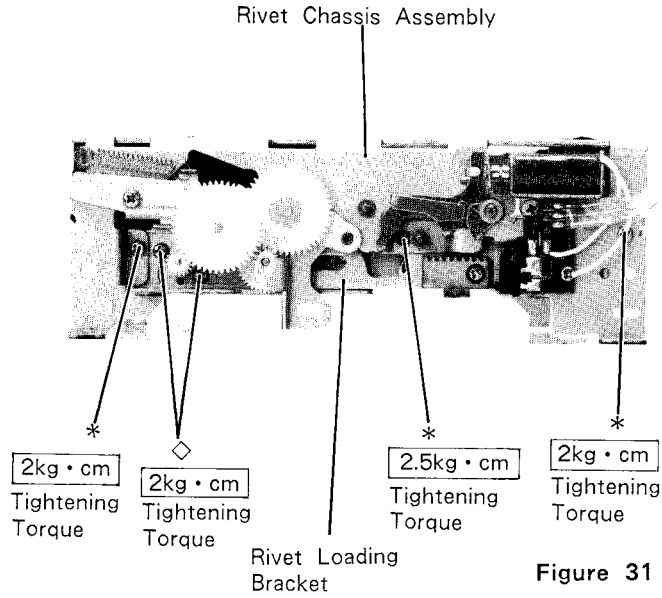


Figure 31

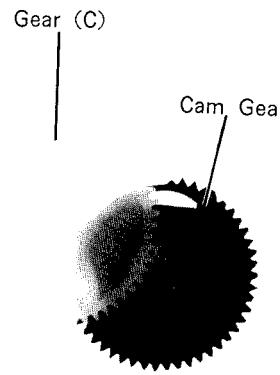


Figure 32

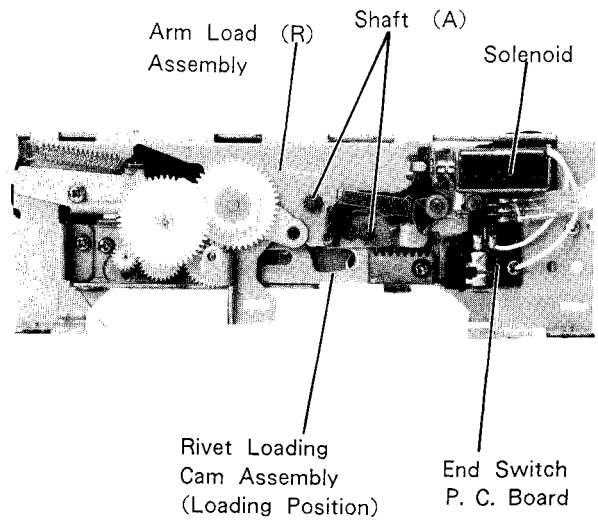


Figure 33